STRATEGIC SEALIFT PROGRAM (SSP)

Navy ACAT IC Program		**Prime Contractor**
Total Number of Systems:	20	Avondale Industries
Total Program Cost (TY$):	$5725M	National Steel and Shipbuilding Company
Average Unit Cost (TY$):	$299M	Newport News Shipbuilding
Full-rate production:	2QFY94	

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2020

The Strategic Sealift Program (SSP) is a ***focused logistics*** program that provides ships to transport or afloat pre-positioned logistic support for a projected military force. This mission is a vital part of ***dominant maneuver*** in the current power projection environment. The representative cargo per ship encompasses equipment for one-third of a heavy Army brigade task force and its supporting supplies. SSP projects and sustains the force by providing 'strategically mobile forces,' "ready on arrival."

The SSP ships are Large (950 feet long, 106 feet wide, and 55,000 long ton displacement), Medium Speed (24 knots), Roll-on/Roll-off (RO/RO) vessels referred to as LMSR. The sealift ships are expected to be capable of self-sustained RO/RO and Lift-on/Lift-off (LO/LO) operations at a pier and in an In-the-Stream (ITS) scenario through stern and side port ramps to a RO/RO Discharge Facility (RRDF). In addition, the LMSR is required to be capable of self-sustained LO/LO cargo operations in an ITS scenario by interfacing with lighterage.

The LMSR ships are not armed and do not have a combat system. They do have a C^3I suite sufficient to perform their intended mission in conjunction with other naval vessels.

BACKGROUND INFORMATION

The SSP is currently scheduled to deliver twenty ships, five of which are conversions of existing commercial container vessels, and fifteen of which will be newly constructed ships. Officially, there will be nineteen LMSR ships supporting the SSP. The twentieth ship, the USNS SODERMAN, is being converted to an MPF(E) ship and will not be counted as one of the SSP LMSRs. All LMSR ships use common cargo handling systems procured by the Navy. Three contractors are building LMSRs. A performance type procurement description was used. Therefore specific ship configurations differ as the respective builders interpret the mission requirements.

As non-developmental items, DT has been limited, focusing on production assurance testing in conjunction with the builders. Systems and integration testing are witnessed by Navy, U.S. Coast Guard, and American Bureau of Shipping representatives.

The current TEMP was approved in June 1996. In view of the single ship mission and similarities in the LMSR configurations, the Multi-service Test Team decided to treat this program as a single ship class, with four separate "flights." The TEMP outlines a mix of operational test events and operational assessments designed to address the hardware variance between the separate “flights.” An operational test of a conversion and a new construction ship as well as an operational assessment of a conversion and new construction ship is planned as part of the evaluation of this program. To date, two OAs and one OT have been completed.

Operational testing (OT-IIA) of a NASSCO conversion LMSR ship was planned and administered in accordance with the DOT&E-approved TEMP and OT Plan. OT-IIA was conducted during September 1996, aboard United States Naval Ship (USNS) SHUGHART in Savannah, GA and Norfolk, VA. The OT was conducted in conjunction with a planned Army sealift deployment exercise, which moved a representative load of Army equipment (over 1,000 pierside pieces, including tanks, trucks and various helicopters) from the 3d Infantry Division in Savannah, GA to Ft. Story, VA. Over 100 ITS pieces were offloaded at Ft Story, VA.

Results of the OA on the Newport News conversion LMSR, the USNS GORDON, conducted in FY99 will be included in the overall program assessment following OT IIB which is presently scheduled to be completed 1QFY02.

An OA of the first NASSCO new construction LMSR ship, USNS WATSON, was also conducted in FY99. Final results of this OA will be included in the overall program assessment following OT-IIB.

The Avondale new construction LMSR operational test (OT-IIB) scheduled for July 1998, was rescheduled for 1QFY99 due to several production issues, the most significant being the cracked cloverleaf tie downs on the decks of the OT IIB test article, the USNS BOB HOPE. OT-IIB was subsequently rescheduled for 3QFY00 and the USNS FISHER was designated the OT-IIB test article. OT IIB has slipped again due to competing requirements for critical Army units needed for the major portions of the test. The current plan is to conduct OT IIB as part of CENTCOM’s BRIGHT STAR 01/02 Exercise scheduled to be completed 1QFY02.

TEST & EVALUATION ACTIVITY

The Multi-Service Test Team (MTT) spent the early part of this year refining plans for the OT-IIB to be conducted 3QFY00. To potentially reduce the scope of required testing on OT-IIB, plans were developed to capture useful pier-side on-load/off-load data from the BRIGHT STAR 00 exercise in 1QFY00. That effort was intended to satisfy data requirements to assess two of the 17 critical operational issues associated with the SSP. Although extremely useful for providing insights to the Strategic Sealift System, the BRIGHT STAR 00 pier-side data collected were not sufficient to completely satisfy the two critical operational issues being examined. Hence, the scope of OT IIB will not be adjusted based on these data.

OT IIB slipped yet again from the 3QFY00 date due to competing requirements for critical Army units needed for major portions of the test. The MTT spent the last half of this year developing an alternate plan for OT-IIB and updating the TEMP to reflect a change in test strategy. The alternate plan envisions a cost-effective data collection effort from BRIGHT STAR 01/02 and opportune training events where testing and training objectives can be effectively combined. BRIGHT STAR 01/02 is envisioned to serve as the culminating OT-IIB event. The TURBO PATRIOT exercise conducted in September 2000, an LMSR pierside load of 25th Infantry Division combat equipment destined for In-The-Stream offload at Camp Pendleton, CA while enroute to a JRTC rotation, served as a data collection opportunity. Analysis of the data collected on this exercise is ongoing as of this writing.

TEST & EVALUATION ASSESSMENT

The SSP has not been adequately tested at this point. DOT&E is assessing the SSP relative to the entire Strategic Sealift System (end-to-end performance). Planning factors based on credible LMSR operational data are needed in addition to an assessment of LMSR operational effectiveness and suitability. Most likely, the ship will perform as required. To date, no significant deficiencies have been observed in operational testing focused on ship capabilities, however real shortfalls have been observed in load planning and training of personnel for executing the mission, and adequate doctrine is not yet in place to guide execution. In-The-Stream operations (doctrine, training, expected offload flow rate, and stern ramp operations) and crane pendulation are two general areas of concern along with assessment of the HOPE class ship in particular.

ITS is a specific area of concern. It is highly probable that the advantages of LMSR ship performance will be mitigated by existing deficiencies in the Strategic Sealift System. Shortfalls in the lighterage system (capability, inventory, and doctrine) could adversely affect the U.S.'s ability to project power in a timely manner in situations where adequate port facilities are not available. In fact, there are a limited number of ports in key areas of interest that can accommodate an LMSR pierside offload. A study of port access conducted in 1991 evaluated ports worldwide to identify those ports that could accommodate an LMSR. A total of 113 ports were identified as having sufficient depth of water and length of berth to allow pierside offload of an LMSR. Of the 113 ports identified, 54 were in NATO countries, 8 more were in non-NATO western European countries, 13 were in Austria, New Zealand, Japan or Korea and 13 were in Southwest Asia. Of the remaining 25 ports, 9 were in Africa, 8 in Latin America, 3 in China and 1 each in India, Israel, Finland Majuro and Indonesia. This situation is significant in that we may be able to get the force to a crisis in a timely fashion but, in some situations, be challenged to get the force off the ship. The overall class assessment will be made upon completion of the OT-IIB event and will include an evaluation of the ship's ability to unload "in-the-stream" using

current capability (presently fielded RRDF) and doctrine. An FOT&E may be required to demonstrate ITS operations in Sea State III when a Sea State III capable RRDF is developed.

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The OA on the Newport News conversion LMSR, the USNS GORDON, was conducted in FY99. Initial observations compared USNS GORDON to USNS SHUGHART and determined that the surge load performance would likely be similar to that of the SHUGHART's. One exception noted was greater difficulty in maneuvering HMMVWs with trailers on the GORDON's hoistable decks. This could potentially increase surge load duration. Two recurring deficiencies from OT IIA were the absence of loading manuals to assist the stevedores and crew, and the need for additional training, particularly the Army participants. In addition, a potentially serious problem is that the loaded draft of the USNS GORDON exceeds the 35 feet threshold by a foot or more, restricting entry into marginally capable ports.

An OA of the first NASSCO new construction LMSR ship, USNS WATSON, was also conducted in FY99. Initial observations of the USNS WATSON loadout are: (1) the NASSCO new construction LMSR ships are easier to load compared to the two classes of conversion LMSR ships previously evaluated; (2) the NASSCO new construction LMSR ship holds approximately one-third more cargo than two conversion classes of LMSR ships; (3) efficient stow planning was hindered by inaccurate ship data (repeat finding); and (4) the final stowage plan did not appear to take full advantage of all available space (either additional equipment could have been stowed or available space could have been used to facilitate the exercise and maintenance of pre-positioned equipment).

Based on the results of OT-IIA, the NASSCO conversion LMSR is assessed to be operationally effective and potentially operationally suitable. No significant deficiencies were observed however issues concerning training, doctrine, ITS interoperability, and load inefficiencies were identified. Limited "in-the-stream" data were collected during OT-IIA. "In-the-stream" data need to be fully developed. The final results of USNS WATSON and GORDON OAs will be reported as part of the overall assessment of the Strategic Sealift Program, which is due upon completion of OT-IIB.

OT-IIB, presently envisioned to be conducted during CENTCOM's BRIGHT STAR 01/02, is designed to examine the Avondale new construction ship as part of the strategic sealift system and focused on the surge sealift mission. The Multi-service Test Team is still examining alternatives for demonstrating ship offload "in-the-stream" for the HOPE class ship. The overall program assessment will address all ship configurations from all three prime contractors.